

## COURSE PROSPECTUS

**Name of the Group:** *Embedded System Group*

**Name of the Course:** *PG Diploma in Embedded System Design*

**Course Code:** *ED 500*

**Starting Date:** *21 August 2019*

**Duration:** *24 Weeks (840 Hours)*

**Course Coordinator:** *Shoukath Cherukat, 9447423306*

**Preamble:** *Embedded systems are normally built around Microcontrollers and ARM Processor based SOCs. This Embedded System Design course focuses on the architecture and programming of embedded processors, development of applications using Embedded/Real-Time Operating Systems and porting the applications on ARM based hardware platform. An overview of Cyber Physical Systems, Internet of Things (IoT) and Embedded Product Design is also included in the course. As part of seven weeks project work, a proof-of-concept prototype design of an embedded system will be undertaken by participants to make them industry ready.*

**Objective of the Course:** *The objective of the course is to provide understanding of the techniques essential to the design and implementation of embedded systems using suitable hardware and software tools. This course offers a range of topics of immediate relevance to industry and makes the participants exactly suitable for Embedded Industry.*

**Outcome of the Course:** *On completion of the Course, the Participants shall get*

- *Proficiency required to design any embedded system (H/w or S/w or both) based on different families and architectures of Embedded System tools such as Microcontrollers, ARM Processors, Open Source Hardware etc.*
- *Expertise in developing applications using Embedded OS/RTOS and porting it on ARM Platform.*
- *Expertise to develop CPS & IoT Applications*

**Course Structure:** *This course contains total six modules. After completing the first five modules, the students have to do a seven weeks project using any of the topics studied to earn the PG Diploma.*

<i>ED 500</i>	<i>Module Name</i>	<i>Weeks</i>
<i>ED 501</i>	<i>Embedded C and ARM Cortex Microcontrollers</i>	<i>4</i>
<i>ED 502</i>	<i>Embedded Linux and Porting on ARM Board</i>	<i>4</i>
<i>ED 503</i>	<i>Embedded RTOS</i>	<i>4</i>
<i>ED 504</i>	<i>Cyber Physical Systems &amp; IoT</i>	<i>3</i>
<i>ED 505</i>	<i>Embedded Product Design</i>	<i>2</i>
<i>ED 506</i>	<i>Project Work</i>	<i>7</i>
	<b>Total</b>	<b>24</b>

*Other Contents*

a. **Course Fees:**

**General Candidates:** Course fee is Rs. 70,000/- + GST at actual

**SC/ST Candidates :** Tuition Fees are waived for SC/ST students admitted under SCSP/TSP. However they are required to remit an amount of **Rs. 8500/- as Advance caution/security deposit**. This amount will be considered as caution/security deposit and will be refunded after successful completion of the course. If the student fails to complete the course successfully this amount alongwith any other caution/security deposits by the student will be forfeited.

**Modular wise Course Fee:** Modular admission is also possible

<b>Module &amp; Course Code</b>	<b>Module Name</b>	<b>Duration (Weeks)</b>	<b>Fees (for General candidates)</b>	<b>Payable by SC/ST candidates (refundable after successful completion of course)</b>
Module I	<i>ED 501 Embedded C and ARM Cortex Microcontrollers</i>	<i>4</i>	<i>Rs. 16800/- + GST at actual</i>	<i>Rs. 2000/-</i>
Module II	<i>ED 502 Embedded Linux and Porting on ARM Board</i>	<i>4</i>	<i>Rs. 16800/- + GST at actual</i>	<i>Rs. 2000/-</i>
Module III	<i>ED 503 Embedded RTOS</i>	<i>4</i>	<i>Rs. 16800/- + GST at actual</i>	<i>Rs. 2000/-</i>
Module IV	<i>ED 504 Cyber Physical Systems &amp; IoT</i>	<i>3</i>	<i>Rs. 12600/- + GST at actual</i>	<i>Rs. 1500/-</i>
Module V	<i>ED 505 Embedded Product Design</i>	<i>2</i>	<i>Rs. 8400/- + GST at actual</i>	<i>Rs. 1000/-</i>

- b. **Registration Fee:** An amount of Rs.1000/- (including GST) (nonrefundable) should be paid at the time of registering for the course.

This fee shall be considered as part of course fee, if the student joins the course. If a student register and pay for more than one course and join for any one course, all such amount will be adjusted against the course fee payable.

If the student does not join for the registered course / any of the registered courses, fee paid shall be forfeited.

**For SC/ST candidates, the registration fee is Rs.500/-** and will be considered as part of caution/security deposit and will be refunded after successful completion of the course. If the candidate does not join or fails to complete the course the amount will be forfeited

However above the registration fee shall be refunded on a few special cases as given below

- Course postponed and new date is not convenient for the student
- Course cancelled in advance, well before the admission date

c. **Course Fee Installment Structure:**

Students can pay the full fees of Rs. 82,600/- (Rs. 70,000/- + GST) in advance or as installments as given below

<b>Fees</b>	<b>*Amount for General Candidates</b>	<b>Amount for SC/ST Candidates. (considered as caution/security deposit)</b>	<b>#Due Date (on or before)</b>
<i>Registration Fee</i>	<i>Rs.1000/-</i>	<i>Rs.500/-</i>	<i>During Registration</i>
<i>**Advance Fee</i>	<i>Rs. 10,000/-</i>	<i>Rs. 8,000/-</i>	<i>12/08/2019</i>
<i>1<sup>st</sup> Installment</i>	<i>Rs. 37,200/-</i>	<i>Nil</i>	<i>21/08/2019</i>
<i>2<sup>nd</sup> Installment</i>	<i>Rs. 34,400/-</i>	<i>Nil</i>	<i>12/11/2019</i>
<i>Total Fee</i>	<i>Rs. 82,600/-</i>	<i>Rs. 8,500/- (refundable after successful completion of course)</i>	<i>-</i>

\*Above fees is inclusive GST@actuals (18%) and revision if any will be applicable at the time of payment.

# Fine will be applicable to late fee payment.

- \*\* Advance fee - After publication of first selection list, the students in the first selection list have to pay the Advance Deposit within the due date to take the provisional admission. Students in the additional selection list should pay both Advance and First installment fee together on or before counseling day

Eligibility:

- i. *M.E./M.Tech or B.E./B.Tech in Electronics/ Electronics & Communication/ Electrical/ Electrical and Electronics/Instrumentation/ Biomedical /Computer Science/Information Technology or MSc in Electronics/ Instrumentation/ Computer Science/Information Technology.*
  - ii. *Candidates who have appeared in the qualifying examination and awaiting results may also apply.*
- d. Number of Seats : 40
- e. Selection of candidates :
- The selection to the course shall be based on the following criteria:*
- i. *Selection of candidates will be based on their marks in the qualifying examination subject to eligibility and availability of seats. Knowledge in C Programming and Basic Electronics is a pre-requisite of this course.*
  - ii. *The First list of Provisionally Selected Candidates will be intimated on 02/08/2019 by email only. In case of vacancy, an additional selection list will be prepared and the selection will be intimated by email only.*
  - iii. *All candidates who appear in the first selection list may pay Rs.10,000/- on or before 12<sup>th</sup> August 2019 by direct payment into our account from any bank where core banking facility is available. Selected candidates are requested to send the proof of remittance of fee as email, so as to reach the center by 13<sup>th</sup> August 2019.*
- f. Test/Interview: *Not Applicable*
- g. Counseling/Admission: *All candidates provisionally selected and paid the advance fee will have to be present personally for counseling and admission on 20<sup>th</sup> August 2019 with all the necessary documents (originals and attested copies). Working days are from Monday to Friday. Admission timings are from 9.30 am to 4.00 pm.*

h. Important Dates (if applicable) :

August 2019						
SUN	MON	TUE	WED	THU	FRI	SAT
				1	2	3
					First Selection List	
4	5	6	7	8	9	10
11	12	13	14	15	16	17
	Last Date of Advance Fee Deposit	Submission of proof of remittance	Additional Selection List			
18	19	20	21	22	23	24
	Last Date of Application	Counseling/ Admission	Commencement of classes			

- i. Course Timings: *This program is a practical oriented one and hence there shall be more lab than theory classes. The classes and labs are from 9.30 am to 12.45 pm and 1.30 pm to 5.15 pm Monday to Friday. During project work, the timings are from 9.15 am to 5.15 pm. The theory to lab proportion is 35:65.*
- j. Placement : *We have a placement cell, which provides placement assistance to students who qualify our courses. Our Students are placed in reputed embedded companies like Harman, Texas Instruments, Microchip, Robert Bosch, Wipro Technologies, Toshiba, Caterpillar, Continental Automotive, Tata Elxsi, VVDN Technologies, QuEST Global, GadgEon Smart System, Inntot Technologies etc.*

*The course improves the knowledge and skill of the students as it deals with the latest technologies and tools used in industries. This helps the student in getting a placement by*

- i. *Campus placement*
- ii. *Placement by companies for whom we send the students bio data and they conduct interviews at their site.*
- iii. *Students themselves attend interview at different companies and the course helps in the interview.*

*The placement details of previous participants of this course is available in <http://nielit.gov.in/sites/default/files/course/ED500-Placement-Details.pdf>*

- k. Lab Facilities: <http://nielit.gov.in/calicut/content/embedded-system-group>
- l. Course Contents : *Course [Syllabus](#)*

[Click here for General Terms and Conditions – Applicable to all courses](#)